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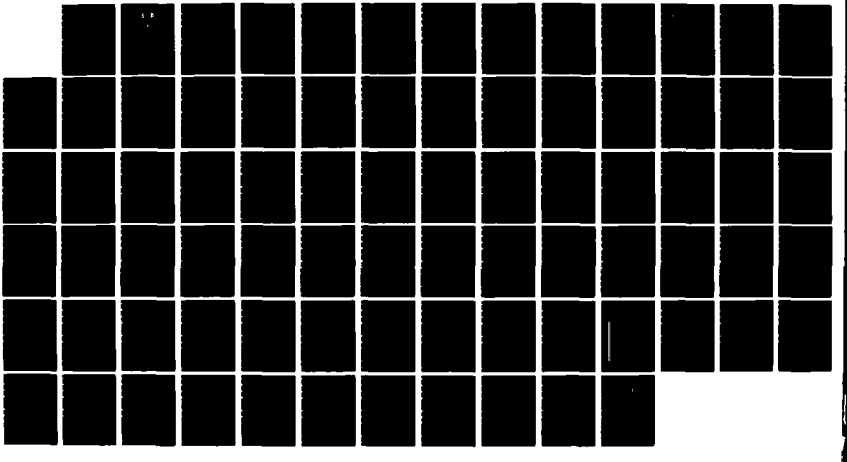

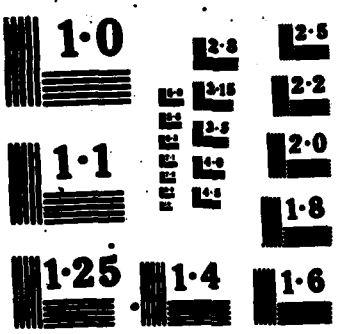

AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

JOB ATTITUDES OF TAC MAINTENANCE OFFICERS

MAJOR THOMAS D. HAYNIE 86-1085

"insights into tomorrow"

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REPORT NUMBER 86-1085

TITLE JOB ATTITUDES OF TAC MAINTENANCE OFFICERS

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Submitted to the faculty in partial fulfillment of
requirements for graduation.

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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

A portion of Air Force Organization Assessment Package (OAP) data base was used to assess job attitudes of Tactical Air Command's maintenance officers and compare them to those of other maintenance officers and of officers working in non-maintenance career fields. Analysis of variance and multiple comparisons were performed on factors extracted from the OAP, which measured the work itself, work group process and work group output and how they relate to job attitudes. The study concludes that TAC maintenance officers and other maintenance officers have similar job attitudes. However, both groups of maintenance officers generally have more positive attitudes toward the job than officers in non-maintenance career fields. The only exception was in the area of job training where officers in the maintenance career field indicated less positive attitudes toward the technical training and on-the-job training they received. Implications are discussed and conclusions and recommendations are made.

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PREFACE

During my 28 years of Air Force service (1957 - 1986) I have seen maintenance performed under many different systems, both in peace time and during war. I have been mobilized and deployed when worldwide crises threatened our national security or the security of our allies. I have watched our primary weapons systems evolve from a prop-driven subsonic force to today's F-15/F16 supersonic force. This period accounts for alot of major changes in the way we do business, however, during all this time the basic charter of the maintenance person on the flightline (and those that lead them) has changed very little.

This study examines the job attitudes of (maintenance leaders) Tactical Air Command's maintenance officers and compares them to other maintenance officers and non-maintenance officers. The data analyzed in this study resulted from the Organizational Assessment Package (OAP) survey which was designed, tested and administered by the Air Force's Leadership and Management Development Center (LMDC) at Maxwell Air Force Base, Alabama. The LMDC's objective for the OAP was to develop a flexible instrument which would allow organizational strengths and weaknesses to be identified.

By analyzing the data which resulted from survey administrations (of 111 bases or organizations in 10 major commands, direct reporting units, or special operating agencies) I have had the opportunity to examine the job attitudes of TAC's maintenance officers and compare them to other maintenance officers and non-maintenance officers. The statistical results of the analysis revealed only 1 of the 13 factors measured showed a significant difference between TAC maintenance officers and officer respondents in the other two groups. The results of this study have enlightened me and allowed me to look at my own feelings about TAC's overall maintenance philosophy.

Although I enjoyed doing this research project, I cannot take all the credit; many people had a hand in its completion. First, I feel it is appropriate to thank the unknown airmen and officers who worked in the Leadership and Management Development Center and gathered the OAP data over the six years. Next, I would like to recognize

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Major Mickey R. Dansby and Captain Richard H. Brown for the time they spent helping me understand how to write a technical research paper, and also for proof-reading the drafts as I went along. Lastly, I need to thank my loving wife, Gisela, for her patience and help during not only the production of this paper but also her understanding during the entire Air Command & Staff College school year.

ABOUT THE AUTHOR

Major Thomas D. Haynie enlisted in the Air Force in October, 1957. Upon completion of basic training, he attended the jet engine specialist course at Chanute AFB, Illinois. His duty assignments in the jet engine career field included: Ramstein AFB, Germany; Sheppard AFB, Texas; Naha AFB, Okinawa; Cam Ranh Bay AFB, Vietnam; and Homestead AFB, Florida.

In 1971, Major Haynie was selected for the Bootstrap Commissioning Program and subsequently earned a Bachelor of Arts degree from Park College. He attended Officer Training School at Lackland AFB, Texas, in 1972 and the Aircraft Maintenance Officer Course (AMOC) at Chanute AFB, Illinois, in 1973. After AMOC he was assigned to Tyndall AFB, Florida, as the OIC of the Aerospace Systems Branch. In 1975 he became the Chief of Maintenance of an F-106 Alert Detachment, George AFB, California. During 1976 he moved to Camp New Amsterdam, The Netherlands, as the OIC of the Organizational Maintenance Branch, 32nd Tactical Interceptor Squadron. In 1978 he transferred to Spangdahlem AFB, Germany, where he served as the Maintenance Supervisor in the 52nd Tactical Fighter Wing. He returned to the United States in 1980 to an AFROTC assignment and performed duties as the Assistant Professor of Aerospace Studies, Southeast Missouri State University, Cape Girardeau, Missouri. In 1983 Major Haynie was assigned to Headquarters Twelfth Air Force at Bergstrom AFB, Texas, as the Chief of the Aircraft Maintenance Division.

Major Haynie has a master's degree from Chapman College, Orange, California. He has also completed Squadron Officer School, both by correspondence and in residence, and Air Command and Staff College by correspondence. His decorations include the Air Force Meritorious Service Medal with two oak leaf clusters, the Air Force Commendation Medal with one oak leaf cluster, the Armed Forces Expeditionary Medal, and the Vietnam Gallantry Cross with Palm. Major Haynie is married to the former Gisela Johanna Werner, and they have two children, Thomas and Howard and two grandchildren, Samantha and Helen.

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EXECUTIVE SUMMARY

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REPORT NUMBER 86-1085

AUTHOR(S) MAJOR THOMAS D. HAYNIE

TITLE *JOB ATTITUDES OF TAC MAINTENANCE OFFICERS*

I Purpose: To examine the job attitudes of maintenance officers (AFSC 40XX) assigned to the Tactical Air Command (TAC) and compare them to the attitudes of maintenance officers assigned to other major air commands and to those officers assigned to non-maintenance career fields. The study is also intended to help the Air Force Leadership and Management Development Center (LMDC) capture information on job attitudes of maintenance and non-maintenance officers, which might serve a useful purpose in the future.

II Data: A portion of the Air Force's Organizational Assessment Package (OAP) data base was used to assess and compare the job attitudes for over 12,000 Air Force Officers. Information on 13 job attitude factors (Job Performance Goals, Task Characteristics, Task Autonomy, Job Training, Work Support, Management and Supervision, Supervisory Communications Climate, Organizational Communications Climate, Pride, Advancement-Recognition, Workgroup Effectiveness, General Organizational Climate And Job Related Satisfaction) was extracted from the OAP data base for the three officer groups. Analysis of variance and multiple comparisons were performed on each factor to determine any significant differences that exist among the three groups.

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The analysis of variance and multiple comparisons showed significant differences in 5 of the 13 factors. The perceptions of the TAC maintenance officers were significantly higher than the other two groups on Organizational Communications Climate. Additionally, the attitudes of TAC maintenance officers and other maintenance officers were significantly more favorable than those of non-maintenance officers for Task Autonomy, Advancement-Recognition and General Organization Climate factors. The only exception was Job Related Training. The non-maintenance officers scored significantly higher on Job Related Training thus indicating that the maintenance officers as a whole (all of AFSC 40XX) felt they received lower levels of the technical training or on-the-job training they need to perform their jobs.

III Conclusions: There are significant differences between the job attitudes of officers serving in the maintenance and non-maintenance career fields. As a whole, maintenance officers indicate more positive attitudes on many of the factors measured, with the exception of Job Related Training. This single factor could be an indication of future problems; additional analysis of this factor also indicated maintenance officers were dissatisfied with both the technical training and on-the-job training they received. Further study is suggested to determine what technical and managerial training is needed. Another recommendation is for each major air command to develop formal on-the-job training programs to train maintenance officers in the appropriate maintenance philosophy.

Chapter One

INTRODUCTION

> My hat is off to you mechanics. You may be ragged grease monkeys to some, but to me you're the guardian angels of this flying business. (Lt Gen Ira C. Eaker, quoted in Ryan, 1971, p. 44)

According to Brig Gen Waymond C. Nutt (Townsend, 1980, p. 56), "few people in the Air Force work harder or under greater demands than maintenance people." Their ability to get the job done has been demonstrated repeatedly during simulated combat exercises, deployments, and periods of national emergency (Townsend, 1980). Maintenance is one of the largest and most diversified career fields with personnel assigned to installations throughout the world, many of which are in remote locations. It takes about 4,000 officers, 160,000 enlisted and 50,000 civilians to maintain all the aircraft, missiles, munitions, and electronic systems in the Air Force inventory.

It is important to maintain a good maintenance program in support of the operational flying mission, if the Air Force is to continue to enjoy the current high aircraft in-commission rates. Perhaps just as important are the job attitudes of the people who maintain the aircraft. The purpose of this study is to examine the job attitudes of maintenance officers in one of the Air Force's primary "fighting commands," and to provide

recommendations for improved productivity. Before exploring job attitudes of maintenance officers in the Tactical Air Command (TAC), it is important to look at the background of the TAC's maintenance philosophy.

Prior to 1978, aircraft maintenance throughout all major air commands was standardized under AFM 66-1, entitled "Maintenance Management Concepts," and the decision making responsibilities were centralized under the Deputy Commander for Maintenance (DCM) for each major operational mission area (Townsend, 1980). However, during the last eight years the Tactical Air Command has made some major changes in its aircraft maintenance program. These changes were motivated by a declining sortie rate averaging 8% per year. In fact, the average number of sorties a month had been cut in half between 1969 and mid-1978; TAC aircraft were flying an average of only 11.5 sorties per month (Nelson, 1977), a level considered insufficient for aircrews to maintain combat readiness. In 1974, due to the decrease in sortie production and other relevant factors, the Air Staff asked TAC's Commander to review aircraft maintenance procedures.

As a result of the Air Staff request, a study was conducted looking for new ways to fulfill TAC's requirements. Several key concerns were considered. TAC needed a rapid deployment capability to meet the flying program and increase readiness requirements, and to improve sortie production/surge capability. A new aircraft maintenance system was developed

and tested, resulting in a restructured maintenance organization called Production Oriented Maintenance Organization (POMO). During 1975 and 1976, POMO was tested using the F-4 Wing at MacDill AFB and the F-15 Wing at Luke AFB. Following the test, TAC recommended that POMO be adopted command-wide. The Air Staff agreed, and the system was completely implemented in October 1978 (Townsend, 1980).

The main advantages of POMO were a simplified specialist dispatch system and decentralized decision making authority. The move of TAC from the centralized maintenance concept (AFM 66-1) to the decentralized system (POMO) caused a significant impact on TAC's middle managers. It moved the decision making authority from the wing level (DCM) to the lowest level of management (maintenance officer) in each maintenance squadron. The move to POMO also placed greater responsibility on TAC's maintenance officers when compared to maintenance officers who continued to operate under the centralized system. The main result of POMO was increased sortie production.

Once sortie production began to increase under the decentralized system, additional decentralization steps were taken. This new initiative led to the maintenance and supply concepts TAC operates under today, the Combat Oriented Maintenance Organization (COMO) and the Combat Oriented Supply Organization (COSO). Both COMO and COSO allowed further gains in the sortie production capability of tactical aircraft, again increasing the responsibilities of TAC's maintenance officers.

The foregoing brief description of the major changes in the Tactical Air Command's maintenance philosophy illustrates the changing requirements for TAC maintenance officers. Since there are differences between the decentralized and centralized maintenance systems, there may also be major differences between the job attitudes of maintenance officers assigned to Tactical Air Command and maintenance officers assigned to other major commands. In view of the numerous changes that have taken place in TAC's aircraft maintenance philosophy since 1978, a study of job attitudes of TAC maintenance officers takes on added importance.

Obviously, the role of maintenance officers (Air Force Specialty Code 40XX) assigned to TAC is significantly different from the role of their counterparts assigned to other major air commands. Fortunately, job attitude data for both TAC and other maintenance officers are available for study through the Air Force Leadership and Management Development Center (LMDC), Maxwell AFB, Alabama. These data were collected by LMDC management consultants using the Organizational Assessment Package (OAP) survey. By examining TAC maintenance officers' job attitudes in comparison to the attitudes of other maintenance officers and to non-maintenance officers, the present study examines how the different roles of TAC maintenance officers may have influenced them.

To fulfill its purpose, the project addresses four goals:

1. To review relevant background research and organizational behavior literature;

2. To compare OAP-measured demographic characteristics and job attitudes of TAC maintenance officers with those of other major air command maintenance officers and of officers in other Air Force career areas;

3. To analyze significant attitudinal differences among TAC maintenance officers, other major Air Command maintenance officers and officers in other career areas; and

4. To develop recommendations for TAC maintenance and logistic leaders and functional managers.

These goals are addressed as follows in the report. Chapter Two shows the results of the literature review of past OAP results and organizational behavior literature, including what previous researchers have learned about work attitudes. Next, Chapter Three explains the Organizational Assessment Package (OAP), how the information was gathered, who the subjects were, and how the data were analyzed. Chapter Four presents pertinent demographic data and results of the analysis, and is followed by a discussion of these findings in Chapter Five. Finally, Chapter Six presents the conclusions and recommendations for leaders in the Aircraft Maintenance Career Field.

Chapter Two

LITERATURE REVIEW

> People can bring out the best in others simply by paying attention to what should be the obvious in terms of human needs and fulfilling those needs as part of good, solid leadership. (Gen Bill Creech, quoted in Peters & Austin, 1984, p. 89)

This chapter first provides a summary of literature for the area of job attitude/satisfaction. Then job characteristics of maintenance officers overall, and those in TAC, are reviewed. Finally, expected differences in job attitudes of TAC maintenance, other maintenance, and non-maintenance officers, are summarized.

Job Attitude/Satisfaction

Early job satisfaction research (Hoppock, 1960) merely attempted to determine the general proportions of satisfied and dissatisfied workers. Later researchers attempted to correlate satisfaction or dissatisfaction with the demographic characteristics of workers (Hulin, 1966; Sheppard, 1972). This type of research was followed closely with attempts to explain the causes for certain correlations and their directions (toward satisfaction or dissatisfaction) and thereby define determinants of job satisfaction (Carroll, 1973).

The increased emphasis on the reasons for job satisfaction or dissatisfaction sent researchers back to Maslow's (1954) human motivation theory. They began to look not only at factors in the work environment extrinsic to the job, but also at the job itself. They were looking for those factors intrinsic to the job that satisfied the needs of the workers doing the jobs. The precedental work in this area was begun by Herzberg and his associates. Their "two-factor theory" of job satisfaction has formed the basis of most job satisfaction research in recent years and has led to many of the job enrichment efforts of past decades.

Herzberg's "Two-Factor Theory"

Herzberg, Mausner, and Snyderman (1959), using what they called the "critical incident technique" to define the components of job satisfaction, found two distinct groups of factors in their results. Those factors which led to satisfaction, such as the nature of the work itself, level or scope of responsibilities, and feelings of achievement, they labeled "intrinsic factors" or "motivators." Those factors which caused dissatisfaction, such as work rules and policies, administrative procedures, and working conditions, they labeled "extrinsic factors" or hygiene factors. This led them to the conclusion that the absence of "motivators" did not cause dissatisfaction, but resulted only in no satisfaction. Likewise, the presence of positive "hygiene factors" did not necessarily, in and of themselves, result in satisfaction, only

in the absence of dissatisfaction. In other words, the worker felt satisfied and motivated only when the actual tasks of the job stimulated that feeling.

Some critics of the "two-factor theory" believed that the classification into intrinsic and extrinsic factors was too oversimplified and rigid, and did not take enough individual human differences into account. Lahiri and Srivastva (1967), Weissenberg (1967), and Dunnette, Campell and Hakel (1967) showed evidence that both hygienes (extrinsics) and motivators (intrinsics) can cause either satisfaction or dissatisfaction, with the motivators being the stronger component variable in most cases. Nevertheless, the "two-factor theory" has played a prominent role in programs designed to increase worker satisfaction and motivation toward the ends of reducing turnover, (retention of maintenance officers) and toward increasing productivity.

Programs to Increase Job Satisfaction

Embracing the "two-factor theory," business and industry have instituted many programs aimed at affecting both hygiene factors and motivating factors. Vacation time, sick leaves, pension plans, medical programs, and incentive pays have become standard job benefits in recent years to the point that today they are almost as expected a reward as the paycheck (Kanter, 1978). Allen (quoted in Carroll, 1973) had cautioned on the fringe benefit approach to motivation:

> Many of the traditional methods to improve motivation (fringe benefit programs and personnel policies) have been shown to be primarily related to job dissatisfaction, not satisfaction. As a consequence, management should review thinking regarding fringe benefit programs... more attention must be directed toward motivation factors. (p. 11)

Allen's warning led some employers to embark upon programs, which can be grouped under the general heading of job enrichment, which were aimed at those factors more intrinsic to the job itself. Some assembly line jobs were "enlarged," giving workers more than just a simple repetitive task to perform. Other programs used "job rotation" wherein tasks remained the same, but workers were rotated among various points on the assembly line. In cases of more highly skilled workers, "job purification" was employed wherein the skilled workers were freed of the more menial aspects of a job and allowed to concentrate on the skill challenging portions.

Despite the good intentions of such programs, some proved successful at increasing motivation and satisfaction, while others did not. Programs that were very successful at one company failed in others. These problems caused researchers to question the "two-factor theory" and again examine the nature of human motivation and job satisfaction. Reexamination brought forth theories that job enrichment must be coupled with the need of an individual to have his or her job enriched. An employee who was satisfied with the present level of challenge, achievement, and meaningfulness in the job would not necessarily be motivated by attempts to further enrich that

particular job, but could even become less satisfied. This phenomenon led Hackman, Oldham, Janson, and Purdy (1975) to propose a new approach to job enrichment.

The Motivating Potential Score (MPS)

Since the Hackman-Oldham model, in part, forms the basis of the methodology used in this study, it will be discussed in greater detail than the other research efforts previously reviewed.

Concerned with the failure of many job enrichment efforts, Hackman and Oldham (Hackman et al., 1975; Oldham, Hackman & Pearce, 1976) proposed that better diagnostic tools were needed to help managers and behavioral scientists answer the "hard questions" of which jobs need improving and how they should be improved. Such a tool could both diagnose existing jobs and translate diagnostic results into specific action steps to alter the jobs.

The Hackman-Oldham model proposed that motivation and satisfaction on the job depend on three psychological states:

(1) Experienced Meaningfulness--the person perceives the work as worthwhile or important by some accepted system of values.

(2) Experienced Responsibility--the person believes that he or she personally is accountable for the outcomes of his or her efforts.

(3) Knowledge of Results--the person is able to determine, on some fairly regular basis, whether or not the

outcomes of his or her work are satisfactory.

They further proposed five measurable core characteristics of jobs which, when present, improve work motivation, satisfaction, and performance. The job characteristics of skill variety, task identity, and task significance are related to experienced meaningfulness. Automony is the measurable characteristic related to experienced responsibility, and feedback is the measurable characteristic related to knowledge of results.

The definitions of these core characteristics provide the basis for translating the characteristics into survey responses for measuring the degree of presence or absence of the core characteristics.

1. Skill Variety--the degree to which a job requires the worker to perform activities that challenge his or her skills and abilities.

2. Task Identity--the degree to which the job requires completion of a "whole" and identifiable piece of work--doing a job from beginning to end with a visible outcome.

3. Task Significance--the degree to which the job has a substantial and perceivable impact on the lives of other people.

4. Autonomy--the degree to which a job provides substantial freedom, independence, and discretion to the worker in scheduling work and in determining the procedures to be used in carrying it out.

5. Feedback--the degree to which the worker, in carrying out work activities required by the job, gets clear and direct information about the effectiveness of his or her performance.

The Hackman-Oldham model states that it is not necessary for a job to be very high in the first three core characteristics to be perceived as meaningful. Even if two were low, the worker could find his job meaningful if the third were high enough. The model also proposed that the five characteristics can be combined into a single quantitative index that reflects the overall potential of a job to prompt high internal motivation and satisfaction on the part of the job incumbent. This index is called the Motivating Potential Score (MPS), and can be used as a measure of how motivating or satisfying a job is. The MPS related to the job can be coupled with a measure of an individual's "growth need" to provide the diagnostic tools for "informed enrichment." Thus, jobs already high on the MPS scale need not be affected. Likewise, workers not requiring or desiring "growth" need not be forced into enriched jobs. Such "informed enrichment" strategies would theoretically be more successful than "blanket" enrichment programs.

Job Characteristics of Maintenance Officers

The changes in TAC's maintenance philosophy affected the job characteristics of the officers assigned to AFSC 40XX. Prior to 1978 for instance, a single maintenance organization

was supposed to fit into dissimilar organizations such as the Military Airlift Command (MAC), which does its maintenance on the road (not unlike a civilian airline); the Strategic Air Command (SAC), which operates out of its main operating bases with alert aircraft; and the Tactical Air Command (TAC), which deploys in squadron-size packages all over the world (Haddaway & Stent, 1985). Just as one maintenance concept was supposed to fit all maintenance organization, one centralized maintenance philosophy was supposed to guide all maintenance officers.

The job characteristics of maintenance officers normally concentrate on managing the personnel who perform around the clock maintenance on our fighters, bombers, tankers and cargo aircraft. However, as TAC's maintenance concepts changed (as described in Chapter One) so did the job characteristics of their maintenance officers. In the centralized maintenance arena the maintenance officer managed the work force from a strict maintenance schedule that was planned by the Deputy Commander for Maintenance (DCM) staff. The main responsibility of these maintenance officers was to see that the maintenance plan and flying schedule were adhered to. If, for some reason, the schedule could not be met the information was relayed to job control (a function of the DCM staff) where the decisions were made and schedule changes were printed. The maintenance officer had some responsibility but little or no decision making authority.

> In organizations that are highly centralized true authority, control and responsibility cannot exist at lower level. And that, in turn, means too little room for innovation because there are too few leaders. Worse yet, if there's no authority at lower levels in the system, there's no sense of responsiblity down through the system either. Authority and responsibility must be tied together, centralization ignores that--it is long on management theory and short on overall mission responsibility. Centralization theory wants one organization of a type, not many. There's little or no stress on competition. Centralization prizes "one of a kind," not competitive, subelements. (Gen. Creech quoted in Haddaway & Stent, 1985, p. 16.)

TAC maintenance officers, on the other hand, must be able to handle the responsibility of; planning the maintenance workload, developing a monthly/weekly flying schedule, directing maintenance and munition crews and making the decisions which affect the basic maintenance plans and flying schedules. The reasons TAC's maintenance officers have the authority and responsibility for an entire aircraft maintenance unit (AMU) is because, when a tactical fighter squadron deploys, the AMU maintenance officer will continue to maintain combat ready aircraft without the assistance or expertise of the DCM and his staff.

> Gen. Creech saw two essential ways to develop this ability in each TAC maintenance officer: "One, get people to transcend their individual purpose, get them in sufficient harmony with the fundamental purpose of the organization so that they fully support its objective. Second, you need pride. It's the fuel of human accomplishment. After all, why pay the price to do something well unless you can feel good about it, feel proud about it." (Haddaway & Stent, 1985, p. 16)

Expected Findings

During the author's 28 years in the maintenance career field, he has gained experience (both as a technician and a manager) in the centralized and decentralized maintenance concepts. Although the author feels that the decentralized concept provides more opportunity for maintenance officers to obtain job satisfaction, he doesn't favor one concept over the other. Based on differences in the two concepts, the author expects TAC maintenance officers to show more positive perceptions on the following OAP factors for the reasons stated:

1. Task Characteristics--because TAC maintenance officers are provided more opportunities to use a variety of talents, become involved in the whole task, be responsible for the entire task and receive immediate feedback once the task is completed.

2. Task Autonomy--because the decentralized maintenance concept allows (almost demands) TAC maintenance officers to make the major decisions required to do the job well. This includes providing the maintenance officer a great deal of freedom in scheduling the work, and also in selecting procedures for accomplishing it.

3. Supervisory Communications Climate--because TAC maintenance officers have a direct input into how the job is accomplished. This helps to develop a good working relationship between the maintenance officer and his/her

immediate supervisor. Additionally, the nature of a decentralized function provides an environment for TAC maintenance officers to use more initiative toward the job which helps to establish a cross flow of communications between the different levels of supervision.

4. Organizational Communications Climate--because solid goals are established for each aircraft maintenance unit within the tactical fighter wing and within the Tactical Air Command itself. This way organization communication is established in both directions. The work group is aware of the important events and situations as they develop in the wing, and ideas developed within the work group environment are readily accepted by management as they come back up the chain of command.

5. Pride and Advancement-Recognition--because TAC has established recognition programs to reward those people, work groups and aircraft maintenance units which excel. Also, the maintenance officers have obtained more latitude, authority and responsbility, and families have been orientated to the functions and pressures of the work place. Those mentioned and other improvements have provided the pride and recognition necessary to improve job attitudes.

6. Job Related Satisfaction--along with the decentralization of maintenance came more responsibility, including decisions concerning when, where and how the work is done, the development of a close-knit working group led by the

maintenance officer, opportunities for TAC maintenance officers to use valuable skills and variation in the work itself.

Considering the freedom within the work place and the immediate feedback that the nature of the job provides, the author believes that job related satisfaction should be significantly higher when compared to other maintenance officers and non-maintenance officers.

The research methodology that was used by the Leadership and Management Development Center to gather the data for this research project is described in the next chapter.

Chapter Three

RESEARCH METHODOLOGY

The data analyzed in this study resulted from administrations of the Organizational Assessment Package (OAP) survey (designed and tested by the Air Force's Leadership and Management Development Center (LMDC) at Maxwell Air Force Base, Alabama). LMDC's objective was to develop a flexible instrument which would allow organizational strengths and weaknesses to be identified. This chapter provides a brief description of the instrumentation, data collection, subjects, procedures, analysis of demographic information and comparison of job attitudes. A more comprehensive review of the OAP can be found in Short (1985).

Instrumentation

The OAP survey consists of a computer-scored response sheet and a 109-item booklet (Short, 1985). The design of the OAP supports the mission of LMDC by (a) providing consultative services to Air Force commanders and identification of organizational leadership/management strengths and weaknesses; (b) providing leadership and management training to Air Force personnel in their work environment; and

(c) establishing a data base for research efforts (Hendrix, 1979; Short, 1985).

The survey booklet requires the respondent to complete 16 demographic items and 93 attitudinal items (see Appendix C). When rating items, the respondent uses a scale of "1" to "7". A "1" indicates the strongest disagreement or dissatisfaction with the item, and a "7" indicates the strongest agreement or satisfaction. The numbers "2" through "6" indicate varying degrees of dissatisfaction through satisfaction.

The OAP survey is divided into seven sections or modules. The first module is the BACKGROUND INFORMATION SECTION, which uses 16 items to gather demographic information about the respondent. The second module is JOB INVENTORY, it contains 34 items dealing with job complexity, job autonomy, performance standards, and job goals. The third module is JOB DESIRES and contains seven items about the desired job characteristics. The fourth module is SUPERVISION and consists of 19 items which measure leadership/managerial traits of the respondent's supervisor. The fifth module, WORK GROUP EFFECTIVENESS (WORK GROUP PRODUCTIVITY), has five items and deals with the quantity and quality of the work produced by the respondent's work group. The sixth module, ORGANIZATION CLIMATE, uses 19 items to determine how the respondent's organization deals with such things as communications in the organization, rewards and recognition, cooperation and teamwork in the organization, etc. The finale module is JOB RELATED SATISFACTION and consists of

nine items that round out the picture of the respondent's work environment, dealing with subjects such as the degree of teamwork among co-workers, the respondent's family's attitude towards the job, whether or not the job provides an opportunity to acquire valuable skills, etc.

Data Collection

The OAP data base was gathered during consultation visits to various wings and other organizations throughout the Air Force. The consultation service is a six step process of which data gathering is only one of the steps. Once the Leadership and Management Development Center receives an invitation to a unit, a pre-visit is made by two or three consultants. They brief the process to the commander and his staff, and discuss any concerns or questions. Next a team of four to seven people visits to administer the survey (in group survey sessions), conduct interviews, and gather other organizational data. Next all data are thoroughly analyzed to determine specific organizational strengths and weaknesses. Approximately two months after gathering the data, consultants return to the unit, validate the initial survey data with unit personnel, and provide specific feedback to supervisors on all organizational levels. During this visit the consultants work with individual supervisors to develop management action plans to correct any weaknesses in the unit. The final step consists of a one week visit to measure any progress in the organization. During this

phase, the survey is administered again. After a comparative analysis of these data with those previously obtained, a final report is provided to the commander (The Commander's Guide, 1983). All data for the present study came from the initial (pre-feedback) administrations of the survey.

Subjects

For this study, the LMDC data base was separated into three groups. The first group consisted of maintenance officers (assigned to the Tactical Air Command) whose DAFSC's were 40XX. The second group was made up of maintenance officers (assigned to other major air commands) who also had DAFSC's of 40XX. The third group was made up of those individuals whose DAFSC's were other than 40XX, that is, non-maintenance officers. Sample sizes of these three groups are indicated in Table 1. The data were from pre-intervention survey administrations of 111 bases or organizations in 10 major commands, direct reporting units, or special operating agencies.

Table 1

Sample Size of Comparison Groups

	TAC Maint Officers	Other Maint Officers	Non-maint Officers
No. of Respondents	153	330	12296

Procedures

Data were analyzed in two separate comparisons. "Analysis of Demographic Information" is provided to show the characteristics of the sample groups. "Comparison of Job Attitudes" compares job attitude factor responses of the three groups: TAC maintenance officers to other Major Command maintenance officers to all non-maintenance officers in the Data Base.

The letter, n, shown throughout this report equals the total number of valid responses in the pre-intervention data base for the item or key factor being examined. Statistical analyses were performed using the appropriate procedures contained in the SPSS^{X} User's Guide (1983).

Analysis of Demographic Information

The demographic information was compared for the three groups of TAC maintenance officers, other maintenance officers, and non-maintenance officers. The SPSS^{X} subprogram "Crosstabs" was used to analyze the 21 demographic variables.

Comparison of Job Attitudes

For these analysis, the SPSS^{X} subprogram "Oneway" was used to discern any attitudinal differences among the three study groups. If the analysis indicated a significant difference overall, then the Newman Kuels follow-up test was used to find which specific groups were different. Comparisons were made in three areas of organizational functioning:

1. Work Itself. This area deals with the task properties

(technologies) and environmental conditions of the job. The four OAP factors in this area are Job Performance, Task Characteristics, Task Autonomy, and Job Training.

2. Work Group Process. Assesses the effectiveness of supervisors and the process of accomplishing the work. OAP factors in this area are Work Support, Management and Supervision, Supervisory Communications Climate, and Organizational Communications Climate.

3. Work Group Output. Measures task performance, group development, and effects of the work situation on group members. The five OAP factors in this area are Pride, Advancement/Recognitions, Work Group Effectiveness, General Organizational Climate, and Job Related Satisfaction.

The next chapter presents the results of the analyses of the statistical data of the groups involved.

Chapter Four

RESULTS

This chapter presents the results of the statistical analyses of the data of the three groups involved in this study. It provides the demographic makeup of the typical officer in each of the three groups, and a set of tables showing demographic relationships among the groups. Additionally, it provides the analysis of the attitudinal data that were gathered during the administration of the OAP survey. Highlighted are factors on which significant differences were found.

Analysis of Demographic Information

Detailed demographic information about TAC maintenance officers who responded to the OAP survey is contained in Tables A-1 through A-21, Appendix A. The typical TAC maintenance officer respondent is between 26 and 30 years of age, has more than 12 years in the Air Force, has more than 18 months in the maintenance career field, has between 12 and 18 months at present duty station, and has more than 12 months in present duty position. The typical TAC maintenance officer respondent is married, with 38% of the spouses employed outside the home (including military spouses). More than 98% have undergraduate

degrees, and less than 39% hold advanced degrees. More than 90% are supervisors, and more than 40% supervise more than nine individuals. Eighty percent write APR/OER appraisals, and over 82% indicated that they either will, or likely will, make the Air Force a career.

Demographic information on the maintenance officers in other major air commands shows the typical non-TAC maintenance officer respondent as male, between 31 and 35 years of age, with more than 12 years in the Air Force, more than 36 months in the maintenance career field, and between 18 and 36 months at present duty position. Most non-TAC maintenance officers are married (83%), with 35% of the spouses employed outside the home (including military spouses). More than 99% have undergraduate degrees, and 44% have advanced degrees. More than 88% are supervisors, and more than 30% supervise more than nine other people. Seventy-eight percent write APR/OER/civilian appraisals. Over 66% indicated career intentions, and another 25% answered they are likely to make the Air Force a career.

The demographic information provided by the third group (non-maintenance officers) indicates the typical officer respondent is male, between 26 and 35 years of age, has more than 12 years in the Air Force, has more than 36 months in his or her present career field, has between 18 and 36 months at his or her present duty station, and has less than 6 months in his or her present duty position. The typical non-maintenance officer is married, with 43% of the spouses employed outside

the home (including military spouses). More than 98% have undergraduate degrees, with 48% holding advanced degrees. Only 57% are supervisors, and less than 12% supervise more than nine individuals. Forty-seven percent write APR/OER appraisals. Over 50% indicated career intentions, and another 38% indicated they are likely to make the Air Force a career.

Comparison of Job Attitudes

The main purpose of this study was to compare the job attitudes of TAC maintenance officers to those of other maintenance officers and of non-maintenance officers to determine whether significant differences were present. Additionally, this study focused on significant differences (more or less positive) between TAC maintenance officers and officers of the other two groups. The overall results of the comparisions are provided in Table B-1, Apprendix B, with a summary of significant differences listed in Table 2.

TAC Maintenance Officers versus All Other Officers

The results of the analysis revealed only 1 of the 13 factors measured by the OAP survey showed a significant difference between TAC maintenance officers and other maintenance officers and non-maintenance officers. TAC maintenance officers indicated a more positive response to the Organization Communication Climate factor. Although TAC maintenance officers were significantly different from non-maintenance officers on other factors, the responses were not

significantly different from other maintenance officers.

Table 2

Summary of Significant Differences

Variable	Mean	SD	Subset
JOB RELATED TRAINING			
TAC Maint Officers	4.32	1.65	1
Other Maint Officers	4.35	1.37	1
Non-maint Officers	4.69	1.49	2
TASK AUTONOMY			
TAC Maint Officers	4.86	1.15	2
Other Maint Officers	4.92	1.15	2
Non-Maint Officers	4.54	1.35	1
ORG COMM CLIMATE			
TAC Maint Officers	5.18	1.22	2
Other Maint Officers	4.99	1.22	1
Non-Maint Officers	4.87	1.26	1
ADVANCEMENT/RECOGNITION			
TAC Maint Officers	4.84	1.15	2
Other Maint Officers	4.84	1.14	2
Non-Maint Officers	4.56	1.18	1
GEN ORG CLIMATE			
TAC Maint Officers	5.51	1.24	2
Other Maint Officers	5.41	1.19	2
Non-Maint Officers	5.18	1.25	1

Note. Groups not in the same subset are significantly different at the .05 level.

Maintenance Officers versus Non-maintenance Officers

The results also revealed that TAC maintenance and other maintenance officers together were significantly more negative than non-maintenance officers on Job Training and significantly more positive than non-maintenance officers on Task Autonomy, Advancement-Recognition, and General Organizational Climate.

In the next chapter the author discusses the results in more detail and looks at the expected findings versus the actual OAP survey results.

Chapter Five

DISCUSSION

At the start of this study the author felt that TAC maintenance officers would show a significantly more positive attitude than the other two groups, because of the overall work environment in which they perform their duties. However, the results of the OAP survey analyses do not support the expected findings. Even though the expected findings were not substantiated, the results of the analyses provide some interesting and useful information for the officers and leaders in the maintenance career field as a whole.

Discussion of Expected Findings

The author expected TAC maintenance officers' responses to be more positive than other maintenance officers and non-maintenance officers toward Organization Communication Climate. The reason is because the Combat Oriented Maintenance Organization includes a comprehensive communication system which interconnects the maintenance officer's work group, the wing staff and the Combat Oriented Supply Organization for both information and support. This system eliminated many of the barriers that still exist in the centralized maintenance system. Additionally, the work groups, under the maintenance

officer's area of responsibility, have immediate feedback on the results of their work, are aware of the development of important events or changing situations and know that ideas and suggestions developed within the work group are sought by managers up the chain of command. This factor was the only one supported by the analysis results.

The other factors on which the author expected (but did not find) TAC maintenance officers to show more positive indications included: Task Characteristics, Task Autonomy, Supervisory Communications Climate, Pride, and Advancement-Recognition.

Discussion of Combined Maintenance Groups' Results

Even though TAC maintenance officers, as a separate group, only had one factor that showed a significant difference from the other two groups, the TAC maintenance officers and other maintenance officers combined indicated a significant difference from non-maintenance officers for three more factors for which TAC officers were predicted to be higher. Task Autonomy, General Organizational Climate, and Advancement-Recognition are significantly higher for the combined maintenance groups compared to the non-maintenance group.

Another important finding that came out of the OAP survey analysis is that both the TAC maintenance officers and other maintenance officers responded with less satisfaction toward Job Training than did non-maintenance officers. This result is

not surprising because, in the author's opinion, the technical training and on-the-job training maintenance officer trainees receive do not provide them with the skills needed to function in the complex and dynamic maintenance environment (centralized or decentralized). A short explanation should help the reader understand the author's opinion. The technical training for all maintenance officers is conducted through the formal Aircraft Maintenance Officer Course (AMOC) at Chanute AFB, Illinois. This course is set up to cover the entire spectrum of maintenance including aerodynamics, aircraft systems, Air Force publications, aircraft forms management, and personnel management. While the areas studied are all important, they are taught in very broad and general terms. To further compound the problem, both the centralized and decentralized systems of maintenance are included in the curriculum. Once the new maintenance officers reach their first assignments they find out that most major air commands do not have a standard OJT program to help them advance to the fully qualified level. Many organizations still depend on senior noncommissioned officers to train newly assigned maintenance officers or expect the new officer to take the initiative for his or her own OJT. Consequently, TAC maintenance officers and other maintenance officers responded with a less positive attitude toward the Job Training factor on the OAP survey.

Discussion of Other Than Significant Results

The last portion of the results that the author would like to comment on is the factors where TAC maintenance officers' mean scores were equal to or higher than the mean scores of the other groups. While these factors did not show up as significantly different in the analysis, the author suggest that they do reflect (to some degree) the overall job attitudes of TAC maintenance officers. The mean scores of TAC maintenance officers were either equal to or higher than the mean scores of the other maintenance officers or non-maintenance officers on 10 of the 13 factors analyzed. Even though this information is not statistically significant, it may be an added indication that TAC maintenance officers have a more positive attitude toward Job Performance Goals, Work Support, Management-Supervision, Supervisory Communications Climate, Organizational Communications Climate, Pride, Advancement-Recognition, Workgroup Effectiveness, General Organizational Climate, and Job Satisfaction.

Much of the discussion in this chapter was based on the analysis of the OAP results. The comments and opinions of the author are based on 28 years of experience gained during 12 assignments in five major air commands, while working as both a maintenance technician and an aircraft maintenance officer. The conclusion of this study and recommendations are included in the last chapter.

Chapter Six

CONCLUSIONS/RECOMMENDATIONS

Conclusions

As the author worked through this study and conducted research to support it, the one thing that stood out the most was the scarcity of literature concerning the overall job attitudes or job satisfaction of officers serving in one of the most demanding support career fields (AFSC 40xx) in the U.S. Air Force. Even this study may add little to telling the complete story; the most the author can hope for is to stimulate the thought process. Air Force leaders need to realize that if maintenance officers (especially in the grades of lieutenant through captain) are not satisfied with their jobs, the dissatisfaction will probably be reflected throughout the entire work group, thus creating a tremendously high probability that sortie production and readiness will suffer in the long run.

The changes that took place in the Tactical Air Command when they revamped their maintenance system and introduced the combat oriented maintenance organization still reflect highly on the leaders the command has had during the last decade and it is important that the momentum continues. These changes

were the basis for the author's motivation to do this study. The results of the Organizational Assessment Package analysis did not produce the results that the author expected. However, they did suggest that TAC maintenance officers are equally as satisfied, and in some cases are more satisfied, with their work environment than other Air Force Officers. The one exception to this statement is the job related training factor. The results of this study indicate maintenance officers had a less positive attitude toward job related training. Commanders at all levels should recognize that training our new officers deserves the highest priority. This factor includes technical training as well as on-the-job training--training that develops both the officer's knowledge and his or her strengths. If we ignore the indications of this possible problem, the result may be unprepared leadership in the future and/or poor retention rates (not addressed in this study) in the maintenance career field.

This study supports the changes that TAC has made in their approach to maintenance under COMO. The COMO structure helps fulfill the majority of the needs officers have that directly affect how motivating or satisfying their jobs are, with the one exception of Job Training.

Taking all elements into consideration, commanders should continue to make every effort to improve current maintenance programs and do everything in their power to train our new officers.

Recommendations

After concluding this study, the author feels that additional steps need to be taken to further address training differences. For example:

1. An additional study should be made in TAC to determine what technical and managerial training is required for officers entering the maintenance career field, and the results should be provided to Air Training Command for consideration/ incorporation into the basic Aircraft Maintenance Officers Course.

2. TAC needs to develop a formal OJT program for all entry level (AFSC 40XX) officers, with the Squadron Maintenance Supervisors being responsible for the overall training.

REFERENCES

Air Force Regulation 66-1 (Maintenance management policy). (1983). Washington, DC: Department of the Air Force.

Carroll, B. (1973). Job satisfaction: A review of the literature. In M. W. Blumen (Ed.), Key issues series-No 3 (pp. 31-33). Ithaca: Cornell University.

The commander's guide to Air Force leadership and management consultation services. (January 1983). Maxwell AFB, Al: Leadership and Management Development Center.

Dunnette, M., Campbell, J., & Hakel, M. (1967). Factors contributing to job satisfaction and job dissatisfaction in six occupational groups. Organizational Behavior and Human Performance, 2, 143-147.

Hackman, J. R., Oldham, G. R., Janson, R., & Purdy, K. (1975). A new strategy for job enrichment. California Management Review, 17, 57-71.

Haddaway, G., & Stent, J. N. (1985). How TAC increased command-wide productivity 80% from 1978 to 1984. Government Executive, 17, 14-17.

Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). The motivation to work. New York: Wiley.

Hoppock, R. (1960). A 27-year follow-up on job satisfaction of employed adults. Personnel and Guidance Journal, 38, 489-492.

Hulin, C. L. (1966). Job satisfaction and turnover in a female clerical population. Journal of Applied Psychology, 50, 280-285.

Kanter, R. M. (1978). The changing shape of work: Psychological trends in America (National Conference Series). Washington, DC: American Association for Higher Education.

REFERENCES

Lahiri, D., & Srivastva, S. (1967). Determinants of satisfaction in middle-management personnel. Journal of Applied Psychology, 51, 254-265.

Maslow, A. (1954). Motivation and personality. New York: Harper.

Nelson, W. R. (1977, March) POMO (production oriented maintenance organization): A new concept. Aerospace Safety, pp. 2-4.

Oldham, G. R., Hackman, J. R., & Pearce, J. L. (1976). Conditions under which employees respond positively to enriched work. Journal of Applied Psychology, 61, 395-403.

Peters, T. J., & Austin, N. (1985). A passion for excellence: The leadership difference. New York: Random House.

Ryan, J. D. (1971, May). Focus on people. Air Force Magazine, pp. 44-50.

Sheppard, H. L. (1972). Where have all the robots gone? New York: Free Press.

Short, L. O. (1985). The United States Air Force Organizational Assessment Package (Report No. LMDC-TR-85-2). Maxwell AFB, AL: Leadership and Management Development Center.

SPSS^{X} user's guide. (1983). New York: McGraw-Hill.

Townsend, G. E. (1980, January). Air Force Maintenance--Issues and challenges for the eighties. Air Force Magazine, pp. 56-61.

Weissenberg, P. (1967). Psychological differentiation and job satisfaction. Cornell University, New York State School of Industrial and Labor Relations.

APPENDIX

APPENDIX A

Demographic Information

TABLE A-1

Sex

	TAC Maint (M)	(F)	Other Maint (M)	(F)	Non-Maint (M)	(F)
Officers	130	23	279	51	10785	1511

Table A-2

Age

	n=	TAC Maint (%) 153	Other Maint (%) 330	Non-Maint (%) 12329
17 to 20 Yrs		0.0	0.0	0.0
21 to 25 Yrs		10.5	7.5	12.7
26 to 30 Yrs		27.5	23.3	28.2
31 to 35 Yrs		22.9	27.3	28.2
36 to 40 Yrs		24.2	24.8	19.2
41 to 45 Yrs		12.4	12.4	10.9
46 to 50 Yrs		2.6	3.3	3.5
> 50 Yrs		0.0	1.8	2.2

Table A-3

Years in Air Force

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	153	330	12307
< 1 Year	1.3	1.2	3.4
1 to 2 Yrs	5.2	3.0	5.5
2 to 3 Yrs	11.1	3.9	7.8
3 to 4 Yrs	6.5	6.1	7.3
4 to 8 Yrs	13.1	18.8	21.8
8 to 12 Yrs	17.0	16.4	16.1
> 12 Years	45.8	50.6	38.0

Table A-4

Months in Present Career Field

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	46	70	3601
< 6 Mos	3.9	4.0	5.3
6 to 12 Mos	9.2	7.3	7.6
12 to 18 Mos	8.6	4.0	7.9
18 to 36 Mos	25.0	18.6	21.6
> 36 Mos	53.3	66.2	57.6

Table A-5

Months on Station

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	103	204	7554
< 6 Mos	13.8	16.1	13.8
6 to 12 Mos	21.1	17.3	16.4
12 to 18 Mos	17.8	13.7	16.4
18 to 36 Mos	42.1	40.7	35.8
> 36 Mos	5.3	12.2	17.5

Table A-6

Months in Position

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	144	280	9806
< 6 Mos	41.2	34.1	26.1
6 to 12 Mos	30.7	25.0	24.6
12 to 18 Mos	16.6	14.0	17.1
18 to 36 Mos	10.5	22.3	24.9
> 36 Mos	0.0	4.6	7.3

Table A-7

Ethnic Group

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	153	329	12266
Indian-Alaskan	0.0	0.3	0.7
Asian-Pacific	1.3	0.6	1.5
Black	9.8	5.2	5.8
Hispanic	4.6	2.7	2.3
White	81.0	89.4	87.7
Other	3.3	1.8	2.0

Table A-8

Marital Status

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	153	329	12319
Not Married	22.2	16.1	21.5
Married	76.5	82.7	77.0
Single Parent	1.3	1.2	1.5

Table A-9

Spouse Status: TAC Maint

	Geographically Separated(%)	Not Geographically Separated(%)
n=	2	115
Civilian Employed	50.0	28.7
Not Employed	50.0	61.7
Military Member	0.0	9.6

Table A-10

Spouse Status: Other Maint

	Geographically Separated(%)	Not Geographically Separated(%)
n=	12	260
Civilian Employed	66.7	26.5
Not Employed	8.3	64.2
Military Member	25.0	9.2

Table A-11

Spouse Status: Non-Maint

	Geographically Separated(%)	Not Geographically Separated(%)
n=	415	9068
Civilian Employed	58.6	34.6
Not Employed	20.2	56.7
Military Member	21.2	8.6

Table A-12

Educational Level

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	151	330	12297
HS Grad or GED	0.0	0.0	0.2
< 2 Yrs College	0.7	0.0	0.3
> 2 Yrs College	0.0	0.6	1.4
Bachelors Degree	59.6	55.2	53.0
Masters Degree	38.4	44.2	36.9
Doctoral Degree	1.3	0.0	8.3

Table A-13

Professional Military Education

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	153	328	12126
NONE	31.4	26.5	34.7
Phase 1 or 2	0.7	0.6	1.1
Phase 3	2.6	0.9	1.2
Phase 4	2.6	3.0	0.8
SNCOA - Phase 5	0.0	0.3	0.2
SOS	24.8	31.7	34.7
Int Service Sch	24.2	22.3	23.3
Sr Service Sch	13.7	14.6	12.2

Table A-14

Number People Supervised

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	149	321	11584
None	8.1	12.1	43.0
1 Person	4.7	8.7	7.1
2 People	1.3	6.5	6.4
3 People	6.0	7.2	8.0
4 to 5 People	2.1	17.4	13.4
6 to 8 People	19.5	16.2	9.8
9 to > People	40.3	31.8	12.3

Table A-15

Number People for Whom Respondent Writes APR/OER/Appraisal

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	150	329	12296
None	20.7	22.5	53.0
1 Person	8.7	15.2	9.0
2 People	7.3	9.7	6.9
3 People	6.7	10.6	7.0
4 to 5 People	26.0	18.2	10.9
6 to 8 People	22.7	15.8	8.0
9 to > People	8.0	7.9	5.2

Table A-16

Supervisor Writes Respondents APR/OER

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	150	324	12148
Yes	85.3	82.7	77.3
No	7.3	11.1	14.5
Not Sure	7.3	6.2	8.2

Table A-17

Work Schedule

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	149	328	12205
Day Shift	55.7	63.4	59.5
Swing Shift	2.7	0.9	0.2
Mid Shift	0.7	0.3	0.1
Rotating Shifts	0.7	2.7	4.8
Irregular Schedule	36.9	27.7	11.7
A lot TDY/On-call	2.0	4.9	8.1
Crew Schedule	3.1	0.0	15.6

Table A-18

Supervisor Holds Group Meetings

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	151	326	12178
Never	6.9	4.3	6.6
Occasionally	10.6	15.3	23.4
Monthly	0.7	6.1	14.3
Weekly	45.7	41.7	42.3
Daily	34.4	29.1	11.4
Continuously	2.6	3.4	2.0

Table A-19

Supervisor Holds Group Meetings to Solve Problems

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	152	325	12110
Never	13.8	11.1	15.5
Occasionally	30.9	36.6	42.9
Half The Time	30.3	28.9	21.6
Always	25.0	23.4	20.0

Table A-20

Aeronautical Rating and Current Status

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	153	330	12157
Nonrated	85.6	84.6	60.6
Nonrated, on aircrew	0.0	0.3	2.4
Rated, in crew/ops job	1.3	1.2	27.8
Rated, in support job	13.1	13.6	9.2

Table A-21

Career Intent

	TAC Maint(%)	Other Maint(%)	Non-Maint(%)
n=	152	329	12259
Retire 12 Mos	1.3	2.4	3.4
Career	65.8	66.3	50.3
Likely Career	17.1	14.6	22.7
Maybe Career	7.9	11.2	15.5
Likely Separate	5.3	2.7	5.2
Separate	2.6	2.7	3.0

APPENDIX

APPENDIX B

Comparison of Job Attitudes

Table B-1

Analysis of Job Attitudes

THE WORK ITSELF					
	Mean	SD	Subset	df	F
JOB PERFORMANCE GOALS:				2,12305	.85
TAC Maint Officer	4.71	1.05	1		
Other Maint Officers	4.64	1.00	1		
Non-Maint Officers	4.71	.98	1		
TASK CHARACTERISTICS:				2,12379	3.64*
TAC Maint Officer	5.32	.94	1		
Other Maint Officers	5.19	1.00	1		
Non-Maint Officers	5.34	.95	1		
TASK AUTONOMY:				2,12408	14.22***
TAC Maint Officer	4.80	1.15	2		
Other Maint Officers	4.92	1.19	2		
Non-Maint Officers	4.54	1.35	1		
JOB RELATED TRAINING:				2,10022	9.45***
TAC Maint Officer	4.32	1.65	1		
Other Maint Officers	4.35	1.37	1		
Non-Maint Officers	4.69	1.47	2		

Note Groups not in the same subset are significantly different at the .05 level.

* P<.05. ** P<.01. *** P<.001.

Table B-1 (cont.)

Analysis of Job Attitudes

WORK GROUP PROCESS					
	Mean	SD	Subset	df	F
WORK SUPPORT:				2,12217	4.24*
TAC Maint Officer	4.75	1.06	1		
Other Maint Officers	4.66	1.07	1		
Non-Maint Officers	4.55	1.08	1		
MANAGEMENT AND SUPERVISION:				2,11953	.92
TAC Maint Officer	5.44	1.48	1		
Other Maint Officers	5.26	1.43	1		
Non-Maint Officers	5.30	1.33	1		
SUPERVISORY COMM CLIMATE:				2,11697	3.50*
TAC Maint Officer	4.86	1.61	1		
Other Maint Officers	4.64	1.53	1		
Non-Maint Officers	4.86	1.41	1		
ORG COMM CLIMATE:				2,11817	5.69**
TAC Maint Officer	5.18	1.22	2		
Other Maint Officers	4.99	1.22	1		
Non-Maint Officers	4.87	1.26	1		

Note Groups not in the same subset are significantly different at the .05 level.

* P<.05. ** P<.01. *** P<.001.

Table B-1 (cont.)

Analysis of Job Attitudes

	Mean	SD	Subset	df	F
WORK GROUP OUTPUT					
PRIDE:				2,12639	.42
TAC Maint Officer	5.57	1.43	1		
Other Maint Officers	5.46	1.49	1		
Non-Maint Officers	5.47	1.39	1		
ADVANCEMENT/RECOGNITION:				2,12132	12.44***
TAC Maint Officer	4.84	1.15	2		
Other Maint Officers	4.84	1.14	2		
Non-Maint Officers	4.56	1.18	1		
WORKGROUP EFFECTIVENESS:				2,12258	1.35
TAC Maint Officer	5.91	.95	1		
Other Maint Officers	5.76	1.06	1		
Non-Maint Officers	5.77	1.08	1		
GEN ORG CLIMATE:				2,11882	9.60***
TAC Maint Officer	5.51	1.24	2		
Other Maint Officers	5.41	1.19	2		
Non-Maint Officers	5.18	1.25	1		
JOB RELATED SATISFACTION:				2,11430	.65
TAC Maint Officer	5.46	1.14	1		
Other Maint Officers	5.39	1.07	1		
Non-Maint Officers	5.36	1.08	1		

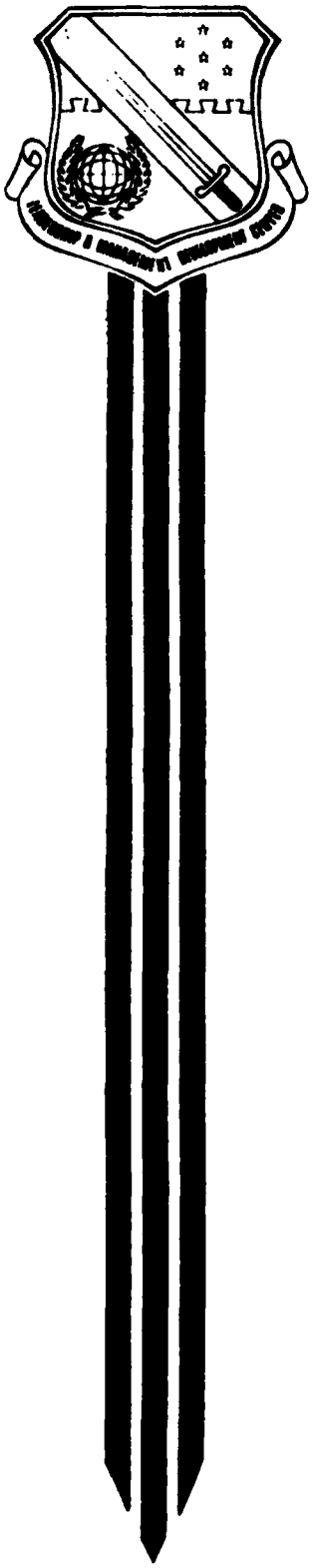
Note Groups not in the same subset are significantly different at the .05 level.

* P<.05. ** P<.01. *** P<.001.

APPENDIX

APPENDIX C

Organizational Assessment Package:
Factors and Variables



ORGANIZATIONAL ASSESSMENT PACKAGE SURVEY

FACTORS

AND

VARIABLES

JANUARY 1986

LEADERSHIP AND MANAGEMENT DEVELOPMENT CENTER
AIR UNIVERSITY

FACTORS AND VARIABLES OF THE ORGANIZATIONAL ASSESSMENT PACKAGE

The OAP is a 109-item survey questionnaire designed jointly by the Air Force Human Resources Laboratory and the Leadership and Management Development Center (LMDC) and is used to aid LMDC in its missions to: (a) conduct research on Air Force systemic issues using information in the OAP database, (b) provide leadership and management training, and (c) provide management consultation service to Air Force commanders upon request.

Allowable responses to the attitudinal items on the survey range from 1 (low) to 7 (high). The attitudinal items are grouped into 25 factors that address such areas as the job itself, management and supervision, communications, and performance in the organization. Each data record consists of 7 externally coded descriptors and 24 demographic items as well as the responses to the 93 attitudinal items.

The factors measured by the OAP are grouped into a systems model to assess three aspects of a work group: input, process, and output (adapted from McGrath's model).

Input. In LMDC's adaptation of the model, input is comprised of demographics, work itself, and job enrichment.

A. Demographics. Descriptive or background information about the respondents to the OAP survey.

B. Work Itself. The work itself has to do with the task properties (technologies) and environmental conditions of the job. It assesses the patterns of characteristics members bring to the group or organization, and patterns of differentiation and integration among position and roles. The following OAP factors measure the work itself:

806 - Job Desires (Need For Enrichment)
810 - Job Performance Goals
812 - Task Characteristics
813 - Task Autonomy
814 - Work Repetition
816 - Desired Repetitive Easy Tasks
823 - Job Related Training
Job Influences (not a statistical factor)

C. Job Enrichment. Measures the degree to which the job itself is interesting, meaningful, challenging, and responsible. The following OAP factors measure job enrichment:

800 - Skill Variety
801 - Task Identity
802 - Task Significance
804 - Job Feedback
806 - Need for Enrichment Index (Job Desires)
807 - Job Motivation Index
808 - OJI Total Score
809 - Job Motivation Index - Additive
825 - Motivation Potential Score

Work Group Process. The work group assesses the pattern of activity and interaction among the group members. The following OAP factors measures leadership and the work group process:

805 - Performance Barriers/Blockages (Work Support)
818 - Management and Supervision
819 - Supervisory Communications Climate
820 - Organizational Communications Climate
Work Interferences (not a statistical factor)
Supervisory Assistance (not a statistical factor)

Work Group Output. Measures task performance, group development, and effects on group members. Assesses the quantity and quality of task performance and alteration of the group's relation to the environment. Assesses changes in positions and role patterns, and in the development of norms. Assesses changes on skills and attitudes, and effects on adjustment. The following OAP factors measure the work group output:

811 - Pride
817 - Advancement/Recognition
821 - Work Group Effectiveness (Perceived Productivity)
822 - Job Related Satisfaction
824 - General Organizational Climate

EXTERNALLY CODED DESCRIPTORS

Batch Number

Julian Date of Survey

Major Command

Base Code

Consultation Method

Consultant Code

Survey Version

(Note: These items are concatenated to each data record during EDP processing.)

DEMOGRAPHIC ITEMS (NOT A STATISTICAL FACTOR)

Variable Number	Statement Number	Statement
-	-	Supervisor's Code
-	-	Work Group Code
-	-	Sex
-	-	Your age is
-	-	You are (officer, enlisted, GS, etc.)
-	-	Your pay grade is
-	-	Primary AFSC
-	-	Duty AFSC

(Note: The above items are on the response sheet.)

001	-	(Not used)
002	-	(Not used)
003	1	Total years in the Air Force: 1. Less than 1 year 2. More than 1 year, less than 2 years 3. More than 2 years, less than 3 years 4. More than 3 years, less than 4 years 5. More than 4 years, less than 8 years 6. More than 8 years

Variable Number	Statement Number	Statement
004	2	Total months in present career field: 1. Less than 1 month 2. More than 1 month, less than 6 months 3. More than 6 months, less than 12 months 4. More than 12 months, less than 18 months 5. More than 18 months, less than 24 months 6. More than 24 months, less than 36 months 7. More than 36 months
005	3	Total months at this station: 1. Less than 1 month 2. More than 1 month, less than 6 months 3. More than 6 months, less than 12 months 4. More than 12 months, less than 18 months 5. More than 18 months, less than 24 months 6. More than 24 months, less than 36 months 7. More than 36 months
006	4	Total months in present position: 1. Less than 1 month 2. More than 1 month, less than 6 months 3. More than 6 months, less than 12 months 4. More than 12 months, less than 18 months 5. More than 18 months, less than 24 months 6. More than 24 months, less than 36 months 7. More than 36 months
007	5	Your Ethnic Group is: 1. American Indian or Alaskan Native 2. Asian or Pacific Islander 3. Black, not of Hispanic Origin 4. Hispanic 5. White, not of Hispanic Origin 6. Other
008	11	Which of the following "best" describes your marital status? 0. Not married. 1. Married: Spouse is a civilian employed outside home. 2. Married: Spouse is a civilian employed outside home - geographically separated. 3. Married: Spouse not employed outside home. 4. Married: Spouse not employed outside home - geographically separated. 5. Married: Spouse is a military member. 6. Married: Spouse is a military member - geographically separated. 7. Single parent.

Variable Number	Statement Number	Statement
009	6	Your highest education level obtained is: 1. Non-high school graduate 2. High school graduate or GED 3. Less than two years college 4. Two years or more college 5. Bachelors Degree 6. Masters Degree 7. Doctoral Degree
010	7	Highest level of professional military education (residence or correspondence): 0. None or not applicable 1. NCO Orientation Course or USAF Supervisor Course (NCO Phase 1 or 2) 2. NCO Leadership School (NCO Phase 3) 3. NCO Academy (NCO Phase 4) 4. Senior NCO Academy (NCO Phase 5) 5. Squadron Officer School 6. Intermediate Service School (i.e., ACSC, AFSC) 7. Senior Service School (i.e., AWC, ICAF, NWC)
011	8	How many people do you directly supervise? 1. None 5. 4 to 5 2. 1 6. 6 to 8 3. 2 7. 9 or more 4. 3
012	9	For how many people do you write performance reports? 1. None 5. 4 to 5 2. 1 6. 6 to 8 3. 2 7. 9 or more 4. 3
013	10	Does your supervisor actually write your performance report? 1. Yes 2. No 3. Not sure

Variable Number	Statement Number	Statement
014	11	Your work requires you to work primarily: 1. Alone 2. With one or two people 3. As a small work group (3-5 people) 4. As a large work group (6 or more people) 5. Other
015	12	What is your usual work schedule? 1. Day shift, normally stable hours 2. Swing shift (about 1600-2400) 3. Mid shift (about 2400-0800) 4. Rotating shift schedule 5. Day or shift work with irregular/unstable hours 6. Frequent TDY/travel or frequently on-call to report to work 7. Crew schedule
016	13	How often does your supervisor hold group meetings? 1. Never 4. Weekly 2. Occasionally 5. Daily 3. Monthly 6. Continuously
017	14	How often are group meetings used to solve problems and establish goals? 1. Never 3. About half the time 2. Occasionally 4. All of the time
018	15	What is your aeronautical rating and current status? 1. Nonrated, not on aircrew 2. Nonrated, now on aircrew 3. Rated, in crew/operations job 4. Rated, in support job

Variable Number	Statement Number	Statement
019	16	Which of the following best describes your career or employment intentions? 1. Planning to retire in the next 12 months 2. Will continue in/with the Air Force as a career 3. Will most likely continue in/with the Air Force 4. May continue in/with the Air Force 5. Will most likely not make the Air Force a career 6. Will separate/terminate from the Air Force as soon as possible

NOTE: Variable 008, Statement 11 was added to the OAP on 19 Jan 80 and replaced variable 014 which appears on page 6. Although no longer used, Variable 014 is still shown because data collected from about 25,000 samples for this variable are still in the data base.

FACTORS

Each 800 series factor consists of two or more variables which correspond to statements in the OAP. A mean score can be derived for each factor except 805, 807, 808, 809 and 825 by using a "straight average." The formula for computing the exceptions is indicated.

FACTOR 800 - SKILL VARIETY: Measures the degree to which a job requires a variety of different tasks or activities in carrying out the work; involves the use of a number of different skills and talents of the worker; skills required are valued by the worker.

Variable Number	Statement Number	Statement
201	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
212	29	To what extent does your job require you to use a number of complex skills?

FACTOR 801 - TASK IDENTITY: Measures the degree to which the job requires completion of a "whole" and identifiable piece of work from beginning to end.

Variable Number	Statement Number	Statement
202	18	To what extent does your job involve doing a whole task or unit of work?
211	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?

FACTOR 802 - TASK SIGNIFICANCE: Measures the degree to which the job has a substantial impact on the lives or work of others; the importance of the job.

Variable Number	Statement Number	Statement
203	19	To what extent is your job significant in that it affects others in some important way?
210	27	To what extent does doing your job well affect a lot of people?

FACTOR 803 (NOT USED)

FACTOR 804 - JOB FEEDBACK: Measures the degree to which carrying out the work activities required by the job results in the worker obtaining clear and direct information about job outcomes or information on good and poor performance.

Variable Number	Statement Number	Statement
272	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
209	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?

FACTOR 805 - WORK SUPPORT: Measures the degree to which work performance is hindered by additional duties, details, inadequate tools, equipment, or work space.

Variable Number	Statement Number	Statement
206	23	To what extent do additional duties interfere with the performance of your primary job?
207	24	To what extent do you have adequate tools and equipment to accomplish your job?
208	25	To what extent is the amount of work space provided adequate?

Formula (8-206+207+208)/3

FACTOR 806 - NEED FOR ENRICHMENT INDEX (JOB DESIRES): Has to do with job related characteristics (autonomy, personal growth, use of skills, etc.) that the individual would like in a job.

Variable Number	Statement Number	Statement
(In my job, I would like to have the characteristics described--from "not at all" to "an extremely large amount")		
249	51	Opportunities to have independence in my work.
250	52	A job that is meaningful.
251	53	The opportunity for personal growth in my job.
252	54	Opportunities in my work to use my skills.
253	55	Opportunities to perform a variety of tasks.

FACTOR 807 - JOB MOTIVATION INDEX: A composite index derived from the six job characteristics that reflects the overall "motivating potential" of a job; the degree to which a job will prompt high internal work motivation on the part of job encumbents.

Index is computed using the following factors:

800	Skill variety
801	Task identity
802	Task significance
805	Performance barriers/blockages
813	Task autonomy
804	Job feedback

Formula ((800+801+802+805)/4)*813*804

FACTOR 808 - OJI TOTAL SCORE: Assesses one's perception of motivation provided by his or her job. This factor is a variation of a scale employed by other job motivation theorists.

Score is computed using the variables in the following formula:

Formula (V201+V202+V203+V270+V271+V272
+8-V206+V207+V208+V209+V210
+V211+V212+V213)

FACTOR 809 - JOB MOTIVATION INDEX ---- ADDITIVE: This factor is a variation of a scale employed by other job motivation theorists.

Index is computed using the following factors:

808	Skill variety
801	Task identity
802	Task significance
805	Performance barriers/blockages
813	Task autonomy
804	Work repetition

Formula ((808+801+802+805)/4)+813+804

FACTOR 810 - JOB PERFORMANCE GOALS: Measures the extent to which job performance goals are clear, specific, realistic, understandable, and challenging.

Variable Number	Statement Number	Statement
217	34	To what extent do you know exactly what is expected of you in performing your job?
218	35	To what extent are your job performance goals difficult to accomplish?
273	36	To what extent are your job performance goals clear?
274	37	To what extent are your job performance goals specific?
221	38	To what extent are your job performance goals realistic?

FACTOR 811 - PRIDE: Measures the pride in one's work.

Variable Number	Statement Number	Statement
215	32	To what extent are you proud of your job?
275	46	To what extent does your work give you a feeling of pride?

FACTOR 812 - TASK CHARACTERISTICS: A combination of skill variety, task identity, task significance, and job feedback designed to measure several aspects of one's job.

Variable Number	Statement Number	Statement
201	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
202	18	To what extent does your job involve doing a whole task or unit of work?
203	19	To what extent is your job significant, in that it affects others in some important way?
272	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?
209	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
210	27	To what extent does doing your job well affect a lot of people?
211	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
212	29	To what extent does your job require you to use a number of complex skills?

FACTOR 813 - TASK AUTONOMY: Measures the degree to which the job provides freedom to do the work as one sees fit; discretion in scheduling, decision making, and means for accomplishing a job.

Variable Number	Statement Number	Statement
270	20	To what extent does your job provide a great deal of freedom and independence in scheduling your work?
271	21	To what extent does your job provide a great deal of freedom and independence in selecting your own procedures to accomplish it?
213	30	To what extent does your job give you freedom to do your work as you see fit?
214	31	To what extent are you allowed to make the major decisions required to perform your job well?

FACTOR 814 - WORK REPETITION: Measures the extent to which one performs the same tasks or faces the same type of problems in his or her job on a regular basis.

Variable Number	Statement Number	Statement
226	39	To what extent do you perform the same tasks repeatedly within a short period of time?
227	40	To what extent are you faced with the same type of problem on a weekly basis?

FACTOR 815 (NOT USED)

FACTOR 816 - DESIRED REPETITIVE EASY TASKS: Measures the extent to which one desires his or her job involve repetitive tasks or tasks that are easy to accomplish.

Variable Number	Statement Number	Statement
255	96	A job in which tasks are repetitive.
258	97	A job in which tasks are relatively easy to accomplish.

FACTOR - JOB INFLUENCES (NOT A STATISTICAL FACTOR):

Variable Number	Statement Number	Statement
216	33	To what extent do you feel accountable to your supervisor in accomplishing your job?
238	42	To what extent do co-workers in your work group maintain high standards of performance?

FACTOR 817 - ADVANCEMENT/RECOGNITION: Measures one's awareness of advancement and recognition, and feelings of being prepared (i.e., learning new skills for promotion).

Variable Number	Statement Number	Statement
234	41	To what extent are you aware of promotion/advancement opportunities that affect you?
239	43	To what extent do you have the opportunity to progress up your career ladder?

240	44	To what extent are you being prepared to accept increased responsibility?
241	45	To what extent do people who perform well receive recognition?
276	47	To what extent do you have the opportunity to learn skills which will improve your promotion potential?

FACTOR 818 - MANAGEMENT and SUPERVISION (A): Measures the degree to which the worker has high performance standards and good work procedures. Measures support and guidance received, and the overall quality of supervision.

Variable Number	Statement Number	Statement
404	58	My supervisor is a good planner.
405	59	My supervisor sets high performance standards.
410	60	My supervisor encourages teamwork.
411	61	My supervisor represents the group at all times.
412	62	My supervisor establishes good work procedures.
413	63	My supervisor has made his responsibilities clear to the group.
445	64	My supervisor fully explains procedures to each group member.
416	65	My supervisor performs well under pressure.

FACTOR - MANAGEMENT and SUPERVISION (B): (NOT A STATISTICAL FACTOR)

Variable Number	Statement Number	Statement
424	66	My supervisor takes time to help me when needed.
434	71	My supervisor lets me know when I am doing a poor job.
439	75	When I need technical advice, I usually go to my supervisor.

FACTOR 819 - SUPERVISORY COMMUNICATIONS CLIMATE: Measures the degree to which the worker perceives that there is good rapport with supervisors, that there is a good working environment, that innovation for task improvement is encouraged, and that rewards are based upon performance.

Variable Number	Statement Number	Statement
426	67	My supervisor asks members for their ideas on task improvements.
428	68	My supervisor explains how my job contributes to the overall mission.
431	69	My supervisor helps me set specific goals.
433	70	My supervisor lets me know when I am doing a good job.
435	72	My supervisor always helps me improve my performance.
436	73	My supervisor insures that I get job related training when needed.
437	74	My job performance has improved due to feedback received from my supervisor.
442	76	My supervisor frequently gives me feedback on how well I am doing my job.

FACTOR 820 - ORGANIZATIONAL COMMUNICATIONS CLIMATE: Measures the degree to which the worker perceives that there is an open communications environment in the organization, and that adequate information is provided to accomplish the job.

Variable Number	Statement Number	Statement
300	82	Ideas developed by my work group are readily accepted by management personnel above my supervisor.
301	83	My organization provides all the necessary information for me to do my job effectively.
302	84	My organization provides adequate information to my work group.
303	85	My work group is usually aware of important events and situations.
304	86	My complaints are aired satisfactorily.
309	91	The information in my organization is widely shared so that those needing it have it available.

314	96	My organization has clear-cut goals.
317	99	The goals of my organization are reasonable.
318	100	My organization provides accurate information to my work group.

FACTOR 821 - WORK GROUP EFFECTIVENESS: Measures one's view of the quantity, quality, and efficiency of work generated by his or her work group.

Variable Number	Statement Number	Statement
259	77	The quantity of output of your work group is very high.
260	78	The quality of output of your work group is very high.
261	79	When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.
264	80	Your work group always gets maximum output from available resources (e.g., personnel and material).
265	81	Your work group's performance in comparison to similar work groups is very high.

FACTOR - WORK INTERFERENCES (NOT A STATISTICAL FACTOR): Identifies things that impede an individual's job performance.

Variable Number	Statement Number	Statement
277	48	To what extent do you have the necessary supplies to accomplish your job?
278	49	To what extent do details (task not covered by primary or additional duty descriptions) interfere with the performance of your primary job?
279	50	To what extent does a bottleneck in your organization seriously affect the flow of work either to or from your group?

FACTOR 822 - JOB RELATED SATISFACTION: Measures the degree to which the worker is generally satisfied with factors surrounding the job.

Variable Number	Statement Number	Statement
705	101	Feeling of Helpfulness The chance to help people and improve their welfare through the performance of my job. The importance of my job performance to the welfare of others.
709	102	Co-worker Relationships My amount of effort compared to the effort of my co-workers, the extent to which my co-workers share the load, and the spirit of teamwork which exists among my co-workers.
710	103	Family Attitude Toward Job The recognition and the pride my family has in the work I do.
717	106	Work Schedule My work schedule; flexibility and regularity of my work schedule; the number of hours I work per week.
718	107	Job Security
719	108	Acquired Valuable Skills The chance to acquire valuable skills in my job which prepare me for future opportunities
723	109	My Job as a Whole

FACTOR 823 - JOB RELATED TRAINING: Measures the extent to which one is satisfied with on-the-job and technical training received.

Variable Number	Statement Number	Statement
711	104	On-the-Job Training (OJT) The OJT instructional methods and instructors' competence.
712	105	Technical Training (Other than OJT) The technical training I have received to perform my current job.

FACTOR 824 - GENERAL ORGANIZATIONAL CLIMATE: Measures the individual's perception of his or her organizational environment as a whole (i.e. spirit of teamwork, communications, organizational pride, etc.).

Variable Number	Statement Number	Statement
305	87	My organization is very interested in the attitudes of the group members toward their jobs.
306	88	My organization has a very strong interest in the welfare of its people.
307	89	I am very proud to work for this organization.
308	90	I feel responsible to my organization in accomplishing its mission.
310	92	Personnel in my unit are recognized for outstanding performance.
311	93	I am usually given the opportunity to show or demonstrate my work to others.
312	94	There is a high spirit of teamwork among my co-workers.
313	95	There is outstanding cooperation between work groups of my organization.
315	97	I feel motivated to contribute my best efforts to the mission of my organization.
316	98	My organization rewards individuals based on performance.

FACTOR 825 - MOTIVATION POTENTIAL SCORE: This factor is another variation of a scale employed by other job motivation theorists. The score ranges between 1 and 343 with 109 being the Air Force average. Low scores indicate a poorly motivating job. Score is computed using the following factors:

800	Skill variety
801	Task identity
802	Task significance
804	Job feedback
813	Task autonomy

Formula ((800+801+802)/3)*813*804

VARIABLES

Variable Number	Factor	Statement Number	Statement
201	808/812	17	To what extent does your job require you to do many different things, using a variety of your talents and skills?
202	801/812	18	To what extent does your job involve doing a whole task or unit of work?
203	802/812	19	To what extent is your job significant, in that it affects others in some important way?
204 & 205	--	--	(Not used)
206	805	23	To what extent do additional duties interfere with the performance of your primary job?
207	805	24	To what extent do you have adequate tools and equipment to accomplish your job?
208	805	25	To what extent is the amount of work space provided adequate?
209	804/812	26	To what extent does your job provide the chance to know for yourself when you do a good job, and to be responsible for your own work?
210	802/812	27	To what extent does doing your job well affect a lot of people?
211	801/812	28	To what extent does your job provide you with a chance to finish completely the piece of work you have begun?
212	808/812	29	To what extent does your job require you to use a number of complex skills?

Variable Number	Factor	Statement Number	Statement
213	813	30	To what extent does your job give you freedom to do your work as you see fit?
214	813	31	To what extent are you allowed to make the major decisions required to perform your job well?
215	811	32	To what extent are you proud of your job?
216*	--	33	To what extent do you feel accountable to your supervisor in accomplishing your job?
217	810	34	To what extent do you know exactly what is expected of you in performing your job?
218	810	35	To what extent are your job performance goals difficult to accomplish?
219 & 220	--	--	(Not used)
221	810	38	To what extent are your job performance goals realistic?
222-225	--	--	(Not used)
226	814	39	To what extent do you perform the same tasks repeatedly within a short period of time?
227	814	40	To what extent are you faced with the same type of problem on a weekly basis?

* This variable is an element of "Job Influences" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
228-233	--	--	(Not used)
234	817	41	To what extent are you aware of promotion/advancement opportunities that affect you?
235-237	--	--	(Not used)
238*	--	42	To what extent do co-workers in your work group maintain high standards of performance?
239	817	43	To what extent do you have the opportunity to progress up your career ladder?
240	817	44	To what extent are you being prepared to accept increased responsibility?
241	817	45	To what extent do people who perform well receive recognition?
242-248	--	--	(Not used)
249	806	51	Opportunities to have independence in my work?
250	806	52	A job that is meaningful.
251	806	53	The opportunity for personal growth in my job.
252	806	54	Opportunities in my work to use my skills.
253	806	55	Opportunities to perform a variety of tasks.
254	--	--	(Not used)
255	816	56	A job in which tasks are repetitive.

* This variable is an element of "job influences" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
256 & 257	--	--	(Not used)
258	816	57	A job in which tasks are relatively easy to accomplish.
259	821	77	The quantity of output of your work group is very high.
260	821	78	The quality of output of your work group is very high.
261	821	79	When high priority work arises, such as short suspenses, crash programs, and schedule changes, the people in my work group do an outstanding job in handling these situations.
262 & 263	--	--	(Not used)
264	821	80	Your work group always gets maximum output from available resources (e.g., personnel and material).
265	821	81	Your work group's performance in comparison to similar work groups is very high.
266-269	--	--	(Not used)
270	813	20	To what extent does your job provide a great deal of freedom and independence in scheduling your work?
271	813	21	To what extent does your job provide a great deal of freedom and independence in selecting your own procedures to accomplish it?
272	804/812	22	To what extent are you able to determine how well you are doing your job without feedback from anyone else?

Variable Number	Factor	Statement Number	Statement
273	810	36	To what extent are your job performance goals clear?
274	810	37	To what extent are your job performance goals specific?
275	811	46	To what extent does your work give you a feeling of pride?
276	817	47	To what extent do you have the opportunity to learn skills which will improve your promotion potential?
277**	--	48	To what extent do you have the necessary supplies to accomplish your job?
278**	--	49	To what extent do details (task not covered by primary or additional duty descriptions) interfere with the performance of your primary job?
279**	--	50	To what extent does a bottleneck in your organization seriously affect the flow of work either to or from your group?
280-299	--	--	(Not used)
300	820	82	Ideas developed by my work group are readily accepted by management personnel above my supervisor.
301	820	83	My organization provides all the necessary information for me to do my job effectively.
302	820	84	My organization provides adequate information to my work group.

** These variables are elements of "work interferences" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
303	820	85	My work group is usually aware of important events and situations.
304	820	86	My complaints are aired satisfactorily.
305	824	87	My organization is very interested in the attitudes of the group members toward their jobs.
306	824	88	My organization has a very strong interest in the welfare of its people.
307	824	89	I am very proud to work for this organization.
308	824	90	I feel responsible to my organization in accomplishing its mission.
309	820	91	The information in my organization is widely shared so that those needing it have it available.
310	824	92	Personnel in my unit are recognized for outstanding performance.
311	824	93	I am usually given the opportunity to show or demonstrate my work to others.
312	824	94	There is a high spirit of teamwork among my co-workers.
313	824	95	There is outstanding cooperation between work groups of my organization.

Variable Number	Factor	Statement Number	Statement
314	B20	96	My organization has clear-cut goals.
315	B24	97	I feel motivated to contribute my best efforts to the mission of my organization.
316	B24	98	My organization rewards individuals based on performance.
317	B20	99	The goals of my organization are reasonable.
318	B20	100	My organization provides accurate information to my work group.
319-403	--	--	(Not used)
404	B18	58	My supervisor is a good planner.
405	B18	59	My supervisor sets high performance standards.
406-409	--	--	(Not used)
410	B18	60	My supervisor encourages teamwork.
411	B18	61	My supervisor represents the group at all times.
412	B18	62	My supervisor establishes good work procedures.
413	B18	63	My supervisor has made his responsibilities clear to the group.
414 & 415	--	--	(Not used)
416	B18	65	My supervisor performs well under pressure.
417-423	--	--	(Not used)
424***	--	66	My supervisor takes time to help me when needed.
425	--	--	(Not used)

*** This variable is an element of "supervisory assistance" (not a statistical factor).

Variable Number	Factor	Statement Number	Statement
426	B19	67	My supervisor asks members for their ideas on task improvements.
427	--	--	(Not used)
428	B19	68	My supervisor explains how my job contributes to the overall mission.
429 & 430	--	--	(Not used)
431	B19	69	My supervisor helps me set specific goals.
432	--	--	(Not used)
433	B19	70	My supervisor lets me know when I am doing a good job.
434***	--	71	My supervisor lets me know when I am doing a poor job.
435	B19	72	My supervisor always helps me improve my performance.
436	B19	73	My supervisor insures that I get job related training when needed.
437	B19	74	My job performance has improved due to feedback received from my supervisor.
438	--	--	(Not used)
439***	--	75	When I need technical advice, I usually go to my supervisor.
440 & 441	--	--	(Not used)
442	B19	76	My supervisor frequently gives me feedback on how well I am doing my job.
443 & 444	--	--	(Not used)
445	B18	64	My supervisor fully explains procedures to each group member.
446-704	--	--	(Not used)

*** These variables are elements of "supervisory assistance" (not a statistical factor).

END

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